ABSTRACT

In one embodiment, the present invention relates to compounds and compositions including pharmaceutical compositions containing the compounds and associated methods that uncouple sugar-mediated coupling of proteins, lipids, nucleic acids, and other biomaterials, and any combination thereof. In another embodiment, the compositions and associated methods have utility in vivo to reduce the deleterious effects of sugar-mediated coupling processes in an organism, when the organism is exposed to the compound or composition internally, by ingestion, transdermal application, or other means. In yet another embodiment, the compositions and associated methods are useful for the ex-vivo treatment of organs, cells and tissues and external treatment of hair, nails and skin to rejuvenate them by changing deformability and increase the tissue diffusion coefficient. In a further embodiment, the present invention relates to novel compounds and pharmaceutical compositions.